

271 *a.* TOTANUS GLAREOLA. Wood-Sandpiper.

Rh. (Ibis, 1907, p. 311.)

272 *a.* STRUTHIO AUSTRALIS. Southern Ostrich.

P. (Ibis, 1907, p. 311.)

EXPLANATION OF PLATE VIII.

Figures of Eggs of South African Passerine Birds.

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XV.—*The Winter Birds of Colorado.*

By W. L. SCLATER, M.B.O.U. (Colorado Springs).

It has occurred to me that a few notes on the winter birds of Colorado might be of interest to my fellow-members of the B.O.U., especially as little appears in 'The Ibis' on the subject of North-American birds. This is probably due to the fact that there are so many excellent ornithological journals in the States that anything of really novel interest is sure to be published in them. I do not claim for one moment that there is anything original in what I have to

* This Sun-bird, previously identified as *C. olivaceus* (above, p. 41), proves on further examination to differ noticeably from typical specimens of that species in the British Museum, all my specimens being intermediate in coloration and measurements between it and *C. obscurus* of the West Coast. Dr. Reichenow, whom I have consulted, considers it to be undoubtedly referable to *C. olivacina* Peters.

say, but perhaps some of the facts may be new to European readers.

The State of Colorado lies very near the centre of the United States, but a little nearer to the Pacific than to the Atlantic. Colorado Springs, which is almost in the middle of the State, is about 750 miles from the head of the Gulf of California, about 850 from Galveston (the nearest point on the Gulf of Mexico), about 950 miles from San Francisco, and about 1650 from New York. It is, therefore, one of the most inland of all the States. It has an area of 103,900 square miles, or a little more than double that of England and Wales. Within this vast area the eastern half consists of open, bare, dry plains, where the country is flat or rolling, and there is hardly any timber except along the river-bottoms. The elevation of these plains (the prairies) rises gradually from 3500 ft. at the Kansas border to 6000 ft. at the foot-hills of the Rockies.

West of the 105th meridian, and rising with extraordinary abruptness from the plains, are the Rocky Mountains, which in Colorado form a kind of knot, whence rivers radiate out in all directions, finding their way to the sea through the channels of the Mississippi, the Rio Grande of Texas, and the Colorado River of Utah and Arizona.

The Continental Divide, separating the waters of the Atlantic from those of the Pacific, runs in a somewhat zig-zag line through the centre of the State from north to south, and along this line are to be found most of the higher peaks, of which forty-four range between 14,000 and 14,500 ft. in altitude. In this region are the great mountain parks, open wide valleys rather bare of trees, situated at elevations of from 7000 to 8000 ft. The chief of these are North and South Parks, drained by the North and South Platte Rivers on the eastern slope, Middle Park drained by the Grand River on the western slope, and the San Luis Valley draining into the Rio Grande River.

The most recent and complete work on Colorado Birds is that of Mr. W. W. Cooke, formerly on the staff of the State Agricultural Experiment Station at Fort Collins, and

now on the staff of the Federal Biological Survey at Washington *. In the summary contained in the final supplement published in 1900, the total number of species of birds met with in Colorado is given as 387 ; since then about 20 additional forms have been recorded, bringing the total up to 407. Of these, 93 are resident throughout the year, 23 are regular winter visitors, 243 are breeding summer residents, while the balance is made up of migrants and stragglers.

The observations which I have to make are on the residents and winter-visitors, and have been made either in the town of Colorado Springs or in the immediate neighbourhood. This town is situated on the extreme western edge of the open plains at an altitude of 6000 ft., while immediately to the west again are the foot-hills of the Rockies, culminating in Pike's Peak (14,147 ft.) about twelve miles distant, so that every condition is to be found for a most varied Avifauna.

In the town itself the only bird which is able to hold its own against the ubiquitous European Sparrow is the House-Finch (*Carpodacus mexicanus frontalis*), very common everywhere throughout the year. The male is a handsome bird with crimson on the head and rump, and has a very sweet song, so that it is a great favourite with bird-lovers. It is found chiefly about the gardens and grass-plots in the residential parts of the town, and frequently nests in or about the verandahs and covered porches with which most of the houses are provided. I have often watched it contending with the Sparrows for scraps, and it seems quite able to take care of itself.

Occasionally during the winter we have a visit from the Western Evening Grosbeak (*Coccothraustes vespertinus montanus*), a large and beautiful species with bright yellow front and wing-bands. This bird is somewhat of a wanderer and has been found in Colorado in almost every month of the year, though only on one occasion has it been detected nesting. Another visitor of somewhat similar habits is the

* 'Birds of Colorado,' by W. W. Cooke, Bull. no. 37 of the State Agricultural Experiment Station, March 1897.

Waxwing (*Ampelis garrulus*), which I have once or twice observed in the town in winter coming to the Honeysuckle-berries for food.

Out on the open plains to the east of the town the only bird to be found in winter in any numbers is the Desert Horned Lark (*Otocorys alpestris leucolema*). This particular subspecies is a resident bird throughout the year in the drier parts of the western plains, and is also found in the mountains wherever there are suitable tracts of open country such as occur in the "parks." During the winter the Horned Larks congregate in small bunches, and are often to be met with along the roads, where they appear to pick up a scanty living from the horse-droppings, and at night find a warmer shelter in the ruts and on the bare earth than they can get on the grass. Occasionally a very severe spell of cold and snow drives them into the towns and villages, where they congregate in thousands, and many doubtless are saved from starvation by the kind-hearted townspeople who feed them.

The greatest variety and number of winter-birds are to be met with along the valleys; here there is always a fair amount of shelter in the form of Cottonwood trees (*Populus*), Alders (*Alnus*), and Willows along the streams, with Scrub-oak and Mountain-mahogany (*Cercocarpus*) on the steep sides of the valley.

The most conspicuous bird in such localities is the American Magpie (*Pica pica hudsonia*). Very closely allied to the English bird, it only differs in its slightly larger size. It is entirely confined to the western half of the North-American Continent. This Magpie has the same cunning and suspicious nature as the English bird; it is quite tame and approachable when one is without a gun, but will not let itself be caught within range of fire. It is a great egg-lover, and takes every opportunity of robbing hen-houses, sometimes sucking the eggs on the spot, sometimes carrying them off to a distance. Its flight is slow and laboured, its long tail seeming to impede it, especially in a high wind. It is generally found

in small parties of two or three during the winter, and is a resident all the year round.

Other members of the same family constantly seen about our valley are the large and handsome Crested Jay (*Cyanocitta stelleri diademata*) and the Woodhouse Jay (*Aphelocoma woodhousei*), both noticeable for their bright plumage and harsh cries. The Columbian Nutcracker (*Nucifraga columbiana*) and the White-headed Jay (*Perisoreus canadensis capitalis*) seldom, if ever, descend from the higher elevations so low as 6000 ft.

Of the smaller birds, by far the most numerous along the valley and wherever there is shelter are the Juncos, sometimes called Snow-birds. We have no less than six species of this genus, all tolerably common. Only one (*Junco caniceps*) breeds in Colorado (at high elevations), the others (*J. aikeni*, *J. shufeldti*, *J. nearnsi*, *J. hyemalis*, and *J. montanus*) are only winter-birds. They are always in large flocks, several species generally keeping together, the commonest being perhaps the Pink-sided (*J. nearnsi*) and the Black-headed (*J. shufeldti*). Every morning when I look out I see large numbers of them on the ground pecking round in the straw and manure with which the lawns and garden are covered up in winter.

Almost equally common are the two Chickadees or Tits (*Parus gambeli* and *P. atricapillus septentrionalis*), which climb about among the Cotton-trees, and apparently secure some insect-nourishment among the twigs and winter buds. They are both resident throughout the year. Another common winter-visitor is the handsome Western Tree-Sparrow (*Spizella monticola ochracea*), which can almost always be recognised by the black patch in the middle of its grey chest. It is often in company with the Juncos, but is less terrestrial in its habits.

The Western Meadow-Lark is generally placed among the summer residents of Colorado, and no doubt the great majority of the birds do go south, but a few certainly winter with us, and during the last months (November to March) I

have frequently seen a small flock in our valley. On bright sunny days they will sit on the top of bushes and sing nearly as sweetly as in spring. I know of no more exhilarating and delicious sound than the note of the Western Meadow-Lark. There is something particularly buoyant and joyful in it. It is impossible to reproduce it in notes or words, as it varies immensely with different individuals.

A rare resident bird which here reaches perhaps its most northern limits is the Road-Runner or Chaparral-Cock (*Geococcyx californianus*). This is a ground-living Cuckoo, though with its long tail and running habits it looks much more like a small Pheasant than a Cuckoo. Its wings are weak and short, and it seldom flies, but skulks in the low scrub of the foot-hills in sheltered nooks. It is particularly fond of a certain limestone-ridge which forms one of the outermost escarpments of the mountains close to my house.

We have three resident Woodpeckers, all fairly common: the Rocky Mountain (*Dryobates villosus monticola*), the Batchelder (*D. pubescens homorus*), and the Red-winged Flicker (*Colaptes cafer*). The last, a specially characteristic American form, is easily recognised by its undulating flight and by its characteristic sharp, clear, but somewhat cackling note. In Eastern Colorado and Western Kansas most interesting intermediate forms between the very distinct Yellow Flicker of the east and the Red-shafted Flicker of the west are not infrequently met with. In some cases the bird has the yellow lining of the tail and wing of *C. auratus* with the red moustache-spots of *C. cafer*, and in others the lining colour of the tail is partially red and partially yellow. Hybridization between the two species seems the only reasonable explanation of this curious state of things.

The subject of vertical migration is one of very considerable interest, and one which has not hitherto received so much attention as it deserves. Little advance has been made in the study of it since the paper by Drew ('Auk,' ii. pp. 11-18, 1885) published many years ago.

Comparatively few species breed at great elevations and winter on the plains, chiefly because the climate of the plains is frequently more severe than that of the mountains and there is certainly less shelter. But there are a good number of birds which make slight vertical migrations, such as the Long-crested Jay, which is found along the foot-hills in winter, and nests in the higher elevations, from 7000 to 11,000 ft., while the Grey-headed Junco (*Junco caniceps*) makes the same movements.

Among the birds which keep to high elevations throughout the year are the Ptarmigan (*Lagopus leucurus*), the Pipit (*Anthus pennsylvanicus*), and the Leucostictes, of which we have four species—one (*Leucosticte australis*) resident and breeding, though the eggs have never yet been taken, the others (*L. tephrocotis*, *L. littoralis*, and *L. atrata*) only in Colorado during the winter months. At this season all the species associate together in flocks at or about timber-line (13,500 ft.). How they manage to pick up a living is a mystery, but on Pike's Peak they are very numerous round the house of the engineer in charge of the Colorado Springs water-supply, which is derived from several lakes on the slopes of the mountain. They feed on the refuse-heap near the house and seem to do fairly well.

Occasionally after a severe storm the Leucostictes are driven down to lower altitudes in enormous numbers. Such was the case on April 20th, 1874, when Mr. Aiken found literally thousands of these birds in an empty lot in the town of Cañon City and secured large numbers for his collection; among them were the types of *L. atrata* subsequently described by Mr. Ridgway.

I append a list of our winter-birds found in El Paso County, of which Colorado Springs is the country seat. They are placed in two categories, as residents all the year round and as winter-visitors. Examples of all of them are in the Aitken collection of birds in the Colorado College Museum. The birds are arranged and named in accordance with the A. O. U. Check-list.

List of Resident Birds in El Paso County, Colorado.

<i>Dafila acuta.</i>	<i>Cyanocitta stelleri diademata.</i>
<i>Dendragapus obscurus.</i>	<i>Aphelocoma woodhousei.</i>
<i>Lagopus leucurus.</i>	<i>Perisoreus canadensis capitalis.</i>
<i>Circus hudsonius.</i>	<i>Nucifraga columbiana.</i>
<i>Accipiter velox.</i>	<i>Cyanocephalus cyanocephalus.</i>
— cooperi.	<i>Agelaius phoeniceus fortis.</i>
— atricapillus.	<i>Sturnella neglecta.</i> [tanus.
<i>Buteo borealis calurus.</i>	<i>Coccothraustes vespertinus mon-</i>
— swainsoni.	<i>Pinicola enucleator montana.</i>
<i>Archibuteo ferrugineus.</i>	<i>Carpodacus cassini.</i>
<i>Aquila chrysaetos.</i>	— mexicanus frontalis.
<i>Falco mexicanus.</i>	<i>Loxia curvirostra minor.</i>
— peregrinus anatum.	<i>Leucosticte australis.</i>
— sparverius.	<i>Astragalinus tristis.</i>
<i>Asio wilsonianus.</i>	<i>Spinus pinus.</i>
<i>Nyctale acadica.</i>	<i>Passer domesticus.</i>
<i>Megascops asio aikeni.</i>	<i>Junco caniceps.</i>
— flammeola.	<i>Pipilo fuscus mesoleucus.</i>
<i>Bubo virginianus pallescens.</i>	<i>Ampelis cedrorum.</i>
<i>Speotyto cunicularia hypogæa.</i>	<i>Cinclus mexicanus.</i>
<i>Glaucidium gnoma.</i>	<i>Catherpes mexicanus conspersus.</i>
<i>Geococcyx californianus.</i>	<i>Certhia familiaris montana.</i>
<i>Ceryle alcyon.</i>	<i>Sitta carolinensis nelsoni.</i>
<i>Dryobates villosus monticola.</i>	— canadensis.
— pubescens homorus.	— pygmaea.
<i>Picoides americanus dorsalis.</i>	<i>Lophophanes inornatus griseus.</i>
<i>Melanerpes torquatus.</i>	<i>Parus atricapillus septentrionalis.</i>
<i>Colaptes cafer collaris.</i>	<i>Parus gambeli.</i>
<i>Otocorys alpestris leucolæma.</i>	<i>Psaltriparus plumbeus.</i>
<i>Pica pica hudsonia.</i>	<i>Myadestes townsendi.</i>

List of Winter-Visitors.

<i>Archibuteo lagopus sancti-johannis.</i>	<i>Junco mearnsi.</i>
<i>Acanthis linaria.</i>	— montanus (= shufeldti × mearnsi).
<i>Leucosticte tephrocotis.</i>	— connectens (= shufeldti × hyemalis).
— — littoralis.	— annectens (= mearnsi × caniceps).
— atrata.	<i>Pipilo maculatus arcticus.</i>
<i>Passerina nivalis.</i>	<i>Ampelis garrulus.</i>
<i>Calcarius lapponicus.</i>	<i>Lanius borealis.</i>
<i>Spizella monticola ochracea.</i>	
<i>Junco aikeni.</i>	
— hyemalis.	
— shufeldti.	